

FILE 'REGISTRY' ENTERED AT 10:48:28 ON 04 DEC 2007
L8 STRUCTURE UPLOADED
L9 1 S L8
L10 29 S L8 SSS FULL

FILE 'STNGUIDE' ENTERED AT 10:49:44 ON 04 DEC 2007

FILE 'REGISTRY' ENTERED AT 10:51:50 ON 04 DEC 2007
L11 STRUCTURE UPLOADED
L12 0 S L11
L13 1 S L11 SSS FULL

FILE 'STNGUIDE' ENTERED AT 10:53:18 ON 04 DEC 2007

FILE 'REGISTRY' ENTERED AT 10:55:13 ON 04 DEC 2007
L14 STRUCTURE UPLOADED
L15 0 S L14
L16 9 S L14 SSS FULL

FILE 'STNGUIDE' ENTERED AT 10:56:14 ON 04 DEC 2007

FILE 'REGISTRY' ENTERED AT 10:57:39 ON 04 DEC 2007
L17 STRUCTURE UPLOADED
L18 0 S L17
L19 15 S L17 SSS FULL
L20 54 S L10 OR L13 OR L16 OR L19

FILE 'CAPLUS' ENTERED AT 11:00:38 ON 04 DEC 2007
L21 4 S L20

FILE 'REGISTRY' ENTERED AT 11:00:49 ON 04 DEC 2007

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L8 STRUCTURE UPLOADED

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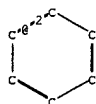
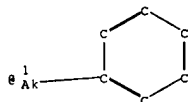
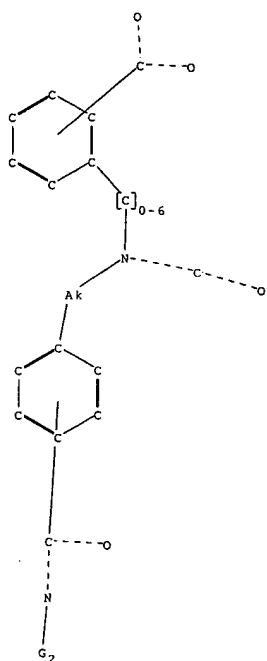
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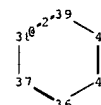
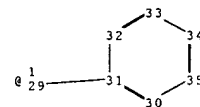
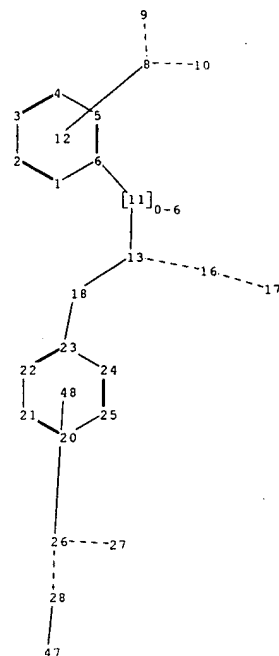
L14 STRUCTURE UPLOADED

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L17 STRUCTURE UPLOADED



A1@ 3



4: 3

chain nodes :

8 9 10 11 13 16 17 18 26 27 28 29 42 47

ring nodes :

1 2 3 4 5 6 20 21 22 23 24 25 30 31 32 33 34 35 36 37 38 39 40 41

chain bonds :

6-11 8-9 8-10 11-13 13-16 13-18 16-17 18-23 26-28 26-27 28-47 29-31

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 20-21 20-25 21-22 22-23 23-24 24-25 30-31 30-35

31-32 32-33 33-34 34-35 36-37 36-41 37-38 38-39 39-40 40-41

exact/norm bonds :

6-11 8-9 8-10 11-13 13-16 13-18 16-17 18-23 26-28 26-27 28-47 29-31

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 20-21 20-25 21-22 22-23 23-24 24-25 30-31 30-35

31-32 32-33 33-34 34-35 36-37 36-41 37-38 38-39 39-40 40-41

isolated ring systems :

containing 1 : 20 : 30 : 36 :

G2: [*1], [*2], [*3]

Connectivity :

18:2 E exact RC ring/chain 42:1 E exact RC ring/chain

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS 9:CLASS 10:CLASS 11:CLASS

12:Atom 13:CLASS 16:CLASS 17:CLASS 18:CLASS 20:Atom 21:Atom 22:Atom 23:Atom

24:Atom 25:Atom 26:CLASS 27:CLASS 28:CLASS 29:CLASS 30:Atom 31:Atom 32:Atom

33:Atom 34:Atom 35:Atom 36:Atom 37:Atom 38:Atom 39:Atom 40:Atom 41:Atom

42:CLASS

47:CLASS 48:Atom

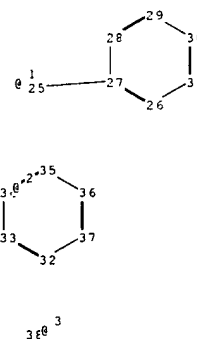
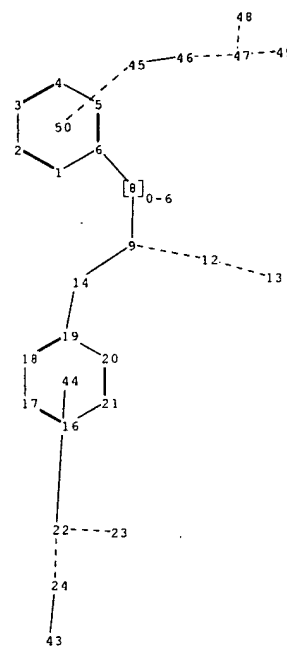
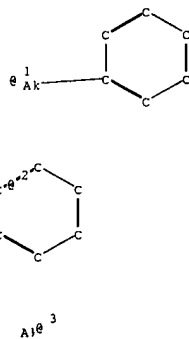
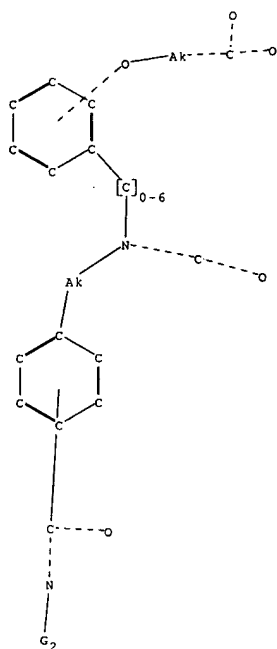
Generic attributes :

18:

Saturation : Saturated

42:

Saturation : Saturated



chain nodes :

8 9 12 13 14 22 23 24 25 38 43 45 46 47 48 49

ring nodes :

1 2 3 4 5 6 16 17 18 19 20 21 26 27 28 29 30 31 32 33 34 35 36 37

chain bonds :

6-8 8-9 9-12 9-14 12-13 14-19 22-24 22-23 24-43 25-27 45-46 46-47 47-48
47-49

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 16-17 16-21 17-18 18-19 19-20 20-21 26-27 26-31
27-28 28-29 29-30 30-31 32-33 32-37 33-34 34-35 35-36 36-37

exact/norm bonds :

6-8 8-9 9-12 9-14 12-13 14-19 22-24 22-23 24-43 25-27 45-46 46-47 47-48
47-49

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 16-17 16-21 17-18 18-19 19-20 20-21 26-27 26-31
27-28 28-29 29-30 30-31 32-33 32-37 33-34 34-35 35-36 36-37

isolated ring systems :

containing 1 : 16 : 26 : 32 :

G2: [*1], [*2], [*3]

Connectivity :

14:2 E exact RC ring/chain 38:1 E exact RC ring/chain 46:2 E exact RC ring/chain

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS 9:CLASS 12:CLASS 13:CLASS
14:CLASS 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:CLASS 23:CLASS
24:CLASS

25:CLASS 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom 32:Atom
33:Atom 34:Atom 35:Atom 36:Atom 37:Atom 38:CLASS 43:CLASS 44:Atom 45:CLASS
46:CLASS 47:CLASS 48:CLASS 49:CLASS 50:Atom

Generic attributes :

14:

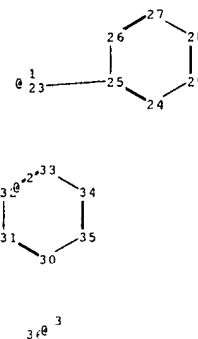
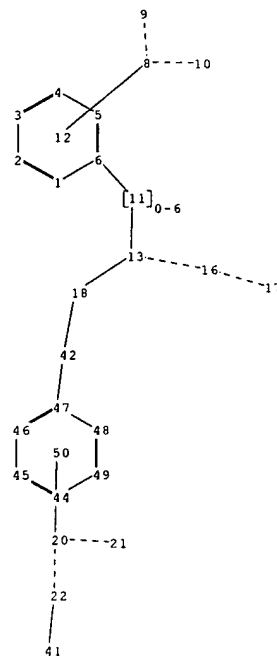
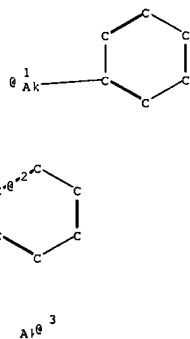
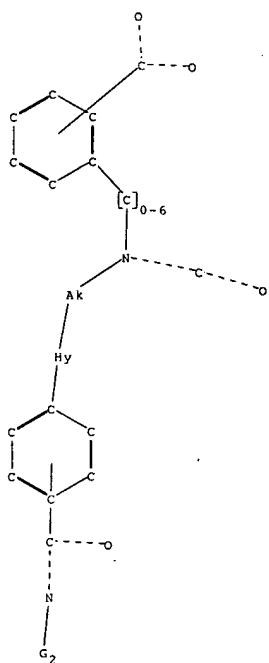
Saturation : Saturated

38:

Saturation : Saturated

46:

Saturation : Saturated



chain nodes :

8 9 10 11 13 16 17 18 20 21 22 23 36 41 42

ring nodes :

1 2 3 4 5 6 24 25 26 27 28 29 30 31 32 33 34 35 44 45 46 47 48 49

chain bonds :

6-11 8-9 8-10 11-13 13-16 13-18 16-17 18-42 20-22 20-21 22-41 23-25 42-47

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 24-25 24-29 25-26 26-27 27-28 28-29 30-31 30-35

31-32 32-33 33-34 34-35 44-45 44-49 45-46 46-47 47-48 48-49

exact/norm bonds :

6-11 8-9 8-10 11-13 13-16 13-18 16-17 18-42 20-22 20-21 22-41 23-25 42-47

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 24-25 24-29 25-26 26-27 27-28 28-29 30-31 30-35

31-32 32-33 33-34 34-35 44-45 44-49 45-46 46-47 47-48 48-49

isolated ring systems :

containing 1 : 24 : 30 : 44 :

G2:[*1],[*2],[*3]

Connectivity :

18:2 E exact RC ring/chain 36:1 E exact RC ring/chain

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS 9:CLASS 10:CLASS 11:CLASS

12:Atom 13:CLASS 16:CLASS 17:CLASS 18:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS

24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom 32:Atom 33:Atom

34:Atom 35:Atom 36:CLASS 41:CLASS 42:Atom 44:Atom 45:Atom 46:Atom 47:Atom

48:CLASS

49:Atom 50:Atom

Generic attributes :

18:

Saturation : Saturated

36:

Saturation : Saturated

42:

Saturation : Unsaturated

Number of Carbon Atoms : less than 7

Number of Hetero Atoms : 2 or more

Type of Ring System : Monocyclic

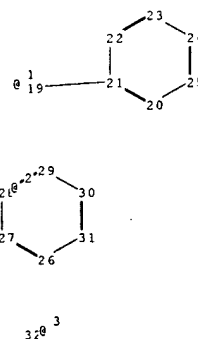
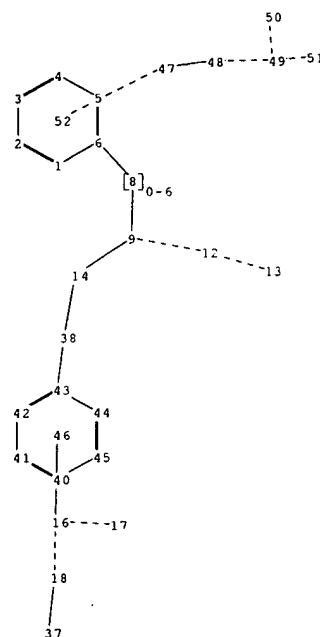
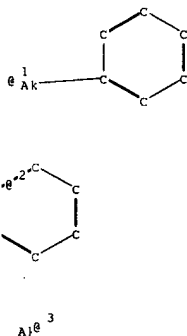
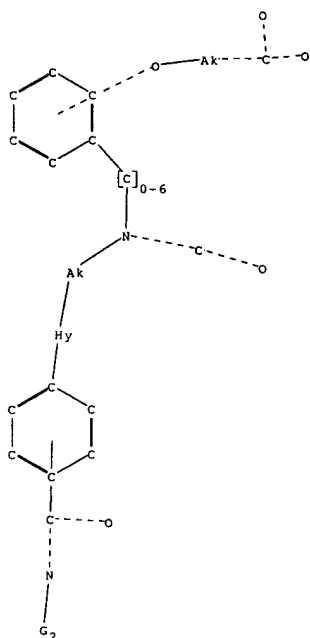
Element Count :

Node 42: Limited

C,C3

N,N1

S,S1



chain nodes :

8 9 12 13 14 16 17 18 19 32 37 38 47 48 49 50 51

ring nodes :

1 2 3 4 5 6 20 21 22 23 24 25 26 27 28 29 30 31 40 41 42 43 44 45

chain bonds :

6-8 8-9 9-12 9-14 12-13 14-38 16-18 16-17 18-37 19-21 38-43 47-48 48-49
49-50 49-51

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 20-21 20-25 21-22 22-23 23-24 24-25 26-27 26-31
27-28 28-29 29-30 30-31 40-41 40-45 41-42 42-43 43-44 44-45

exact/norm bonds :

6-8 8-9 9-12 9-14 12-13 14-38 16-18 16-17 18-37 19-21 38-43 47-48 48-49
49-50 49-51

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 20-21 20-25 21-22 22-23 23-24 24-25 26-27 26-31
27-28 28-29 29-30 30-31 40-41 40-45 41-42 42-43 43-44 44-45

isolated ring systems :

containing 1 : 20 : 26 : 40 :

G2: [*1], [*2], [*3]

Connectivity :

14:2 E exact RC ring/chain 32:1 E exact RC ring/chain 48:2 E exact RC ring/chain

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS 9:CLASS 12:CLASS 13:CLASS
14:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:Atom 21:Atom 22:Atom 23:Atom
24:Atom

25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom 32:CLASS
37:CLASS 38:Atom 40:Atom 41:Atom 42:Atom 43:Atom 44:CLASS 45:Atom 46:Atom
47:CLASS 48:CLASS 49:CLASS 50:CLASS 51:CLASS 52:Atom

Generic attributes :

14:
Saturation : Saturated
32:
Saturation : Saturated
38:
Saturation : Unsaturated
Number of Carbon Atoms : less than 7
Number of Hetero Atoms : 2 or more
Type of Ring System : Monocyclic
48:
Saturation : Saturated

Element Count :

Node 38: Limited
C,C3
N,N1
S,S1

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=> s us200!-565557/apps
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      1 US200!-565557/PRN
L23    2 US200!-565557/APPS
      (US200!-565557/AP, PRN)
```

```
=> s l21 and l23
L24    1 L21 AND L23
```

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=> d l24 bib abs
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```
L24  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2005:120736  CAPLUS
DN   142:219051
TI   Preparation of aryl dicarboxamides as protein-tyrosine phosphatase
      inhibitors
IN   Thomas, Russel J.; Swinnen, Dominique; Pons, Jean-Francois; Bombrun, Agnes
PA   Applied Research Systems Ars Holding N.V., Neth.
SO   PCT Int. Appl., 103 pp.
      CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
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PI	WO 2005011685	A1	20050210	WO 2004-EP51558	20040720
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,				
	CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,				
	GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,				
	LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,				
	NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,				
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	RW:				
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	SN, TD, TG				
	AU 2004260831	A1	20050210	AU 2004-260831	20040720
	CA 2529662	A1	20050210	CA 2004-2529662	20040720
	EP 1656139	A1	20060517	EP 2004-742005	20040720
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	JP 2006528157	T	20061214	JP 2006-520836	20040720
	US 2006189583	A1	20060824	US 2006-565557	20060123 <--
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	US 2003-517824P	P	20031106		
	WO 2004-EP51558	W	20040720		
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GI					

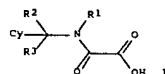
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

```
AB   Title compds. I [A = CONHR6 wherein R6 = alkyl, alkenyl, alkynyl,
      cycloalkyl, etc.; X = aryl, heteroaryl, arylheteroaryl, arylaryl, etc.; n
      = 0 or 1; R1 and R2 independently = H or alkyl; R3 = alkyl, alkenyl,
      alkynyl, alkoxy, etc.; R4 and R5 independently = H, OH, alkyl, carboxy,
      alkoxy, etc.], and their pharmaceutically acceptable salts, are prepared and
      disclosed as protein-tyrosine phosphatase inhibitors. Thus, e.g., II was
      prepared via reductive amination of 6-amino-2,2-dimethyl-4H-1,3-benzodioxin-
```

4-one (preparation given) with 4-formylbenzoate and subsequent amidation with 3-cyclopentylpropanoyl chloride, debenzylation, amidation with 4-phenoxybenzylamine and deprotection. I were evaluated for inhibition of PTP, and in particular PTP1B; e.g., II possessed an IC50 value of 1.0 μ M in assays against PTP1B. As PTP inhibitors, I should be useful for the treatment and/or prevention of obesity and/or metabolic disorders mediated by insulin resistance or hyperglycemia, comprising diabetes type I and/or II, inadequate glucose tolerance, insulin resistance, hyperlipidemia, hypertriglyceridemia, hypercholesterolemia, polycystic ovary syndrome (PCOS).

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

GI



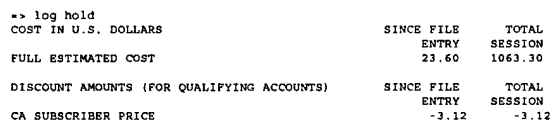
AB Title compds. I wherein R1 = alkyl, alkenyl, alkynyl, aryl, heteroaryl, (3-8-membered)-cycloalkyl, heterocycloalkyl, [alkyl]aryl, [alkyl]heteroaryl, [alkenyl]aryl, heteroaryl, [alkynyl]aryl, heteroaryl; R2, R3 = independently H or alkyl; Cy = aryl, heteroaryl, cycloalkyl, heterocyclyl; with the proviso that four compds. are excluded; their geometrical isomers, optically active forms as enantiomers, diastereomers and racemates, and pharmaceutically acceptable salts and active derivs.] were prepared as inhibitors of protein tyrosine phosphatases (PTPs), in particular PTP1B. Examples include over 400 intermediates, five pharmaceutical formulations, and two biol. assays. For example, the preparation of step 1 involves reacting an aromatic acid with dodecylamine in THF in the presence of 4-methylmorpholine and iso-Bu chloroformate for 3 h at room temperature, reductive amination with 4-trifluoromethylbenzylamine in DCE in the presence of NaBH(OAc), TEA-acylation with chloroacetic acid Et ester in THF, and base-catalyzed hydrolysis of the ester. II exhibited an IC50 value of 2.224 μ M for inhibition of PTP1B, 1.40 μ M for GLSP-1, 2.40 μ M for SHP-1, and 2.70 μ M for SHP-2 in an *in vitro* assay. In an *in vivo* postprandial glycemia model in db/db mice, II, at 20-200 mg/kg orally, decreased blood glucose level by 17% at 20 mg/kg, by 42% at 100 mg/kg, and by 48% at 200 mg/kg, with decreases in serum insulin levels of ~21, 66%, and 89%, resp. Thus, I and their formulations are useful for the treatment and/or prevention of metabolic disorders characterized by insulin resistance or hyperglycemia, comprising diabetes type I and/or II, inadequate glucose tolerance, insulin resistance, hyperlipidemia, hypertriglyceridemia, hypercholesterolemia, obesity, polycystic ovary syndrome (PCOS).

IT 579622-53-A-F, 4-[[[Carboxy]carbonyl]-3-
[[dodecyl(aminocarbonyl)benzyl]amino]methyl]benzoic acid
579622-61-A-F, 3-[[[Carboxy]carbonyl]-3-
[[dodecyl(aminocarbonyl)benzyl]amino]methyl]benzoic acid
579623-67-0-F, 4-[[[Carboxy]carbonyl]-4-
[[dodecyl(aminocarbonyl)benzyl]amino]methyl]benzoic acid
579622-54-Z-P, 3-[[[Carboxy]carbonyl]-4-
[[dodecyl(aminocarbonyl)benzyl]amino]methyl]benzoic acid
Pharmacological, biological, SPM (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
(Uses).

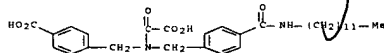
10565557 7 of 8

10565557 8 of 8

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT



SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 11:02:48 ON 04 DEC 2007


$$\text{Me}-(\text{CH}_2)_4-\text{NH}-\text{C}(=\text{O})-\text{C}_6\text{H}_4-\text{CH}_2-\text{N}(\text{CH}_2-\text{C}_6\text{H}_4-\text{CO}_2\text{H})_2$$

=> d his

(FILE 'HOME' ENTERED AT 21:34:50 ON 03 DEC 2007)

FILE 'REGISTRY' ENTERED AT 21:35:03 ON 03 DEC 2007

L1 STRUCTURE UPLOADED
L2 991044 S NCSC2/ES
L3 0 S L1 SAM SUB=L2
L4 0 S L1
L5 4 S L1 SSS FULL SUB=L2

FILE 'CAPLUS' ENTERED AT 21:36:37 ON 03 DEC 2007

L6 1 S L5

=> d l1

L1 HAS NO ANSWERS

L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

8 9 13 14 15 16 17 18 19 20 23 24 25 26 29 31 32 33 34 35 37

1 2 3 4 5 6

6-8 8-9 9-13 9-15 13-14 15-37 16-18 16-17 16-37 19-20 20-33 24-25 24-26
31-32 33-34 33-35

1-2 1-6 2-3 3-4 4-5 5-6

6-8 8-9 9-13 9-15 13-14 15-37 16-18 16-17 16-37 19-20 20-33 24-25 24-26
31-32 33-34 33-35

1-2 1-6 2-3 3-4 4-5 5-6

```
containing 1 :
```

```
8:2 E exact RC ring/chain 15:2 E exact RC ring/chain 20:2 E exact RC ring/chain
32:1 E exact RC ring/chain
```

```

1:Atom  2:Atom  3:Atom  4:Atom  5:Atom  6:Atom  8:CLASS  9:CLASS  13:CLASS  14:CLASS
15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:CLASS 23:CLASS 24:CLASS 25:CLASS
26:CLASS 29:CLASS 30:Atom 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 37:Atom

```

Generic attributes :

8:
Saturation : Saturated
37:
Saturation : Unsaturated
Number of Carbon Atoms : less than 7
Number of Hetero Atoms : 2 or more
Type of Ring System : Monocyclic

Element Count :

Node 37: Limited

C,C3

S,S1

N,N1

=> d 16 bib abs

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:120736 CAPLUS
DN 142:219051
TI Preparation of aryl dicarboxamides as protein-tyrosine phosphatase inhibitors
IN Thomas, Russel J.; Swinnen, Dominique; Pons, Jean-Francois; Bombrun, Agnes
PA Applied Research Systems Ars Holding N.V., Neth.
SO PCT Int. Appl., 103 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005011685	A1	20050210	WO 2004-EP51558	20040720
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2004260831	A1	20050210	AU 2004-260831	20040720
	CA 2529662	A1	20050210	CA 2004-2529662	20040720
	EP 1656139	A1	20060517	EP 2004-742005	20040720
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
	JP 2006528157	T	20061214	JP 2006-520836	20040720
	US 2006189583	A1	20060824	US 2006-565557	20060123
	NO 2006000815	A	20060220	NO 2006-815	20060220
PRAI	EP 2003-102236	A	20030721		
	US 2003-517824P	P	20031106		
	WO 2004-EP51558	W	20040720		
OS	CASREACT 142:219051; MARPAT 142:219051				
GI					

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title compds. I [A = CONHR6 wherein R6 = alkyl, alkenyl, alkynyl, cycloalkyl, etc.; X = aryl, heteroaryl, arylheteroaryl, arylaryl, etc.; n = 0 or 1; R1 and R2 independently = H or alkyl; R3 = alkyl, alkenyl, alkynyl, alkoxy, etc.; R4 and R5 independently = H, OH, alkyl, carboxy, alkoxy, etc.], and their pharmaceutically acceptable salts, are prepared and disclosed as protein-tyrosine phosphatase inhibitors. Thus, e.g., II was prepared via reductive amination of 6-amino-2,2-dimethyl-4H-1,3-benzodioxin-4-one (preparation given) with 4-formylbenzoate and subsequent amidation with 3-cyclopentylpropanoyl chloride, debenzylation, amidation with 4-phenoxybenzylamine and deprotection. I were evaluated for inhibition of PTP, and in particular PTP1B; e.g., II possessed an IC50 value of 1.0 µM in assays against PTP1B. As PTP inhibitors, I should be useful for the treatment and/or prevention of obesity and/or metabolic disorders mediated by insulin resistance or hyperglycemia, comprising diabetes type I and/or II, inadequate glucose tolerance, insulin resistance, hyperlipidemia, hypertriglyceridemia, hypercholesterolemia, polycystic

ovary syndrome (PCOS).

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